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# Paper # 20: The Incidence of Failed ACL Reconstruction by Tunnel Malposition

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Abstract Full Text

## Article Outline



## Summary

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We find in 271 ACL revisions a malposition femoral 51% and tibial 24% even though the latest scientific findings are well published. The failed reconstruction of the rotational stability cause additional intraarticular lesions and poor results.

## Abstract

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The past 30 years have brought remarkable changes in ACL surgery. Reconstruction of a ruptured ACL is one of the most common performed procedere by orthopedic surgeons today. The definition of a failed ACL reconstruction includes a return to knee instability. This manifest oneself often as an increased tibial translation together with internal tibial rotation accompanied by associated pathologies. A failed ACL reconstruction needs to be clearly defined. The absence of an universally accepted definition of ACL reconstruction failure makes it difficult to calculate the number or true incidence of clinical failures. Unsuccessful results from ACL reconstruction have a range from 3% to 52% in the literature depending on the criteria used to define failure. Tunnel malposition is reported to be one of the most frequent technical errors that occurs during primary ACL reconstruction. It has been estimated that 70% to 80% of the failures may be caused by nonanatomic tunnel placement.

From 2001 till 2009 we reconstructed 3235 ACL's. 271 of whom were revisions. 88% of these ACL revisions we accomplished got their primary reconstruction in external facilities. 51% exhibited a failed femoral placement and 24% a failed tibial placement. Also the latest and published scientific knowledge in tunnel placement does not decrease rate of failure. 115 of the ACL revisions have had a vertical graft position ("high noon") and 83 have had a more central femoral position (measured by method Bernard and Hertel).

The combination of a posteriorly placed tibial tunnel with a more central an vertically oriented femoral tunnel results in a graft with nonanatomic vertical orientation in the sagital and coronal planes. The vertical graft may provide stability to anteroposterior translation as seen with the Lachman and anterior drawer examination, but it is unlikely to accomplish adequately control rotation, eliminate the pivot shift or provide an optimal outcome to the return of competitive level in sports.

The majority of studies report that the outcome of ACL revisions is inferior to that of primary reconstruction but it should be considered that the revision procedures are used to be performed many month or years after the failed primary reconstruction. Within this interval of time occuring recurrent episodes and joint deterioration compromise final outcome. The goal would be to restore the best possible function of the knee before ACL revision to maximize the success rate. The potential of revision surgery to accomplish the patients goals must be reasonably discussed.



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